



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/589,540	08/16/2006	Henrik Ohman	06518/LH	8485
1933 7590 03/09/2009 FRISHAUF, HOLTZ, GOODMAN & CHICK, PC 220 Fifth Avenue 16TH Floor NEW YORK, NY 10001-7708				
EXAMINER NGUYEN, HOANG M				
ART UNIT 3748		PAPER NUMBER		
MAIL DATE 03/09/2009		DELIVERY MODE PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/589,540

Applicant(s)

OHMAN, HENRIK

Examiner

Hoang M. Nguyen

Art Unit

3748

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 January 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SF/ICE)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

Applicant's amendment dated January 28, 2009, has been fully considered.

The priority document box has been checked on the cover form of this Office Action.

Applicant has amended the claims extensively to define over the applied references. However, a new ground of rejections has been made based on a newly discovered from further searches.

Applicant argued Callan does not disclose the concept of "connecting the intermediate port with a branch line from an inlet port, said branch line having a valve being responsive to a state parameter". The Examiner disagrees. The first line and the last line of Callan are clearly directed to the intermediate ports with valve 3 on each line, and said valves are responsive to the signals from a load control unit 18 and speed control unit 14.

Yasumoto et al also clearly discloses the pressure responsive valves 18-19 going to the intermediate port of the turbine set.

Only a new primary reference has been used in this application.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-9 are rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. 5327987 (Abdelmalek) in view of U.S. 3097490 (Callan et al). Abdelmalek discloses a power cycle comprising an evaporator 107, a condenser 110, a pump (113), a helical screw expander (109) with a pair of helical rotors 303, 304 in figure 3, with many ports including inlet port, intermediate port, and outlet port, the expander 109 generates electricity and store them in a battery 103. Abdelmalek does not disclose the concept of connecting the intermediate port with a branch line from an inlet port, said branch line having a valve being responsive to a state parameter. Callan is relied upon to disclose it's well known in a power cycle to have a turbine 5, an inlet line 4 with heater 1, branch lines having a plurality of branch valves 3 to control the intake of the turbine, the first branch line and the last branch line are connected to the intermediate ports of the turbine 5, said branch valves 3 being responsive to different state parameters including load, speed, pressure, etc (columns 3 and 5). It would have been obvious at the time the invention was made to a person having ordinary skill in the art to provide branch lines in the expander of Abdelmalek with valves as taught by Callan et al for the purpose of controlling the inlet working fluid in responsive to the specific conditions. Regarding claims 3, 5, it would have been obvious to select different

conditions such as temperature or intake energy as claimed for the purpose of controlling the intake in response to those specific conditions.

Claims 1-9 are further rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. 5327987 (Abdelmalek) in view of U.S. 3994137 (Yasumoto et al).

Abdelmalek discloses a power cycle comprising an evaporator 107, a condenser 110, a pump (113), a helical screw expander (109) with a pair of helical rotors 303, 304 in figure 3, with many ports including inlet port, intermediate port, and outlet port, the expander 109 generates electricity and store them in a battery 103. Abdelmalek does not disclose the concept of connecting the intermediate port with a branch line from an inlet port, said branch line having a valve being responsive to a state parameter.

Yasumoto et al is relied upon to disclose it's well known in a power cycle to have a multistage turbine with three turbine stages 1, 2, 3, an inlet line 24 with heater 4, branch lines 26 having a plurality of branch valves 18, 19, to control the intake of the turbine, the branch line 26 is connected to the intermediate port of the intermediate turbine 22, said branch valves 18-19 being responsive to the load of the system. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to provide branch lines in the expander of Abdelmalek with valves as taught by Yasumoto et al for the purpose of controlling the inlet working fluid in responsive to the specific conditions. Regarding different conditions, it would have been obvious to select different conditions such as pressure, temperature or intake energy as claimed for the purpose of controlling the intake in response to those specific conditions.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Examiner Nguyen whose telephone number is (571) 272-4861. The examiner can normally be reached on Tuesday--Friday from 12:30 AM to 10:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas E. Denion can be reached on 571-272-4859. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Hoang M Nguyen/
Primary Examiner, Art Unit 3748

HOANG NGUYEN
PRIMARY EXAMINER
ART UNIT 3748

Hoang Minh Nguyen
3/9/2009